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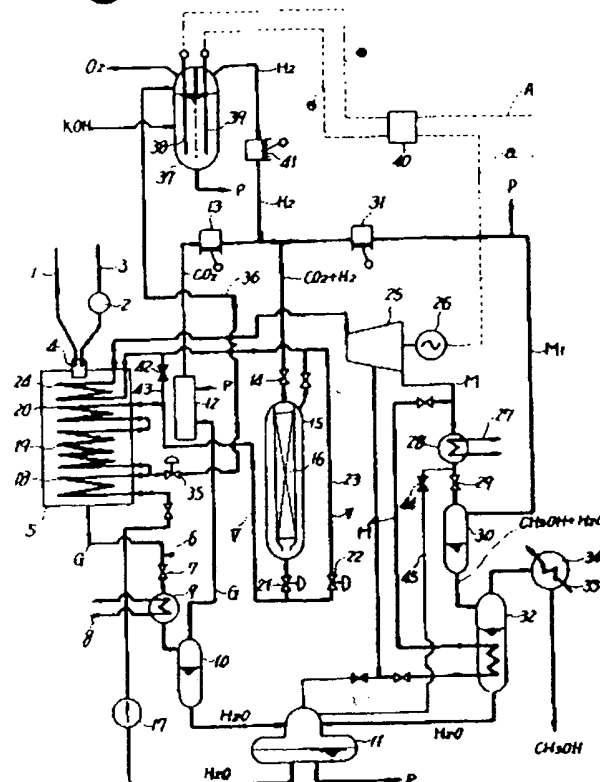
APPLICATION DATE : 12-03-82  
APPLICATION NUMBER : 57039956

APPLICANT : HITACHI Zosen CORP;

INVENTOR : INABA HIDETATSU;

INT.CL. : C07C 31/04 C07C 29/15

TITLE : PRODUCTION OF METHANOL



ABSTRACT : PURPOSE: Carbon dioxide and water are separated from a gas resulting from combustion of fuel, the carbon dioxide is pressurized and combined with hydrogen produced by electrolysis to prepare a synthesis gas, a part of the water is used in the electrolysis and the rest is used to form methanol aqueous solution.

CONSTITUTION: The combustion gas G resulting from combustion of natural gas 1 in the boiler 5 is introduced into the gas-water separator 10 to remove water. Carbon dioxide is separated in the carbon oxide extractor 12 and combined with hydrogen to prepare a synthesis gas and sent to the synthesis column 15. The water removed is sent through the dearator 11 to the boiler 5 where it is heated to form steam V. The steam V is led through valve 21 to the synthesis column 15 where it gets together with the vaporized methanol, then they are superheated in the boiler 5 and sent to the turbine 25 as a working fluid, then cooled to give concentrated methanol solution. A part of water fed to the boiler is taken out of line 36 and used for electrolysis.

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PN - JP8064220 A 960308  
AP - JP940199142 940824  
PA - FUJI ELECTRIC CO LTD  
IN - TAKAHASHI TAKEO; KURATA YOSHIAKI  
I - ---H01M8/06---; C25B1/02; H01M8/00  
TI - HYDROGEN STORAGE POWER GENERATING SYSTEM  
AB - PURPOSE: To provide an economical hydrogen storage power generating system converting the electric power into clean hydrogen causing no environmental pollution, efficiently storing it, and extracting the electric power by utilizing the hydrogen as required.  
- CONSTITUTION: This system is combined with power generating devices including a water electrolytic device 4 generating hydrogen with the electric power from a primary power source such as a ---solar--- battery 1 or a commercial power supply 2, a membrane type gas drying device 5 dehumidifying the hydrogen generated by the water electrolytic device 4, a hydrogen storage device 6 storing or discharging the hydrogen with a hydrogen storage alloy 7, and a fuel cell 8 generating electric power while the hydrogen discharged from the hydrogen storage device 6 is used as fuel. The electric power of the primary power source is converted into hydrogen, the hydrogen is stored in the hydrogen storage alloy 7, and the hydrogen discharged from the hydrogen storage alloy 7 as required is utilized to generate and extract electric power.  
ABV - 096007  
ABD - 960731  
XPN - J08064220  
XPR - 94JP-199142

PN - JP9050820 A 970218  
AP - JP950349380 951219  
PA - SEDA GIKEN:KK; OMRON CORP  
IN - KAWAMURA TAIZO; UCHIBORI YOSHITAKA  
I - ---H01M8/06---; H01M8/04  
TI - FUEL CELL SYSTEM, FUEL CELL, AND HYDROGEN STORAGE SYSTEM  
AB - PROBLEM TO BE SOLVED: To provide a fuel cell system utilizing  
---sun--- rays, being applicable for a wide range and, fuel cells and  
hydrogen storage system optimum for the fuel cell system.  
- SOLUTION: In a fuel cell system comprising ---solar--- cells 2, a  
water electrolytically decomposing tank 6 using electricity from the  
---solar--- cells, a hydrogen storage means 7 and an oxygen storage  
means 8 for hydrogen and oxygen produced from the water  
electrolytically decomposing tank 6, and fuel cells 4 which are driven  
by hydrogen and oxygen from respective storage means 7, 8: the  
electric energy is stored as hydrogen. Fuel cells in which hydrogen  
electrodes and oxygen electrodes are heated by electromagnetic  
induction of coils or fuel cells in which a re-circulating apparatus  
is installed are used as the fuel cells optimum for the system; and  
the re-circulating apparatus employs a hydrogen storage alloy which  
absorbs hydrogen discharged out of the hydrogen electrodes and  
purifies the hydrogen again. Moreover, for a hydrogen storage method  
suitable for the system, a hydrogen storage alloy which can be heated  
by electromagnetic induction heating can be employed.

ABV - 097006  
ABD - 970630  
XPN - J09050820  
XPR - 95JP-349380